

PHYTOPHTHORA BUD ROT OF COCONUT PALM

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The coconut palm, *Cocos nucifera* Linn, is a highly valued ornamental tree in South Florida. Its smooth leaning trunk attains a height of 90 to 100 ft and provides an unusual esthetic tropical effect (5).

Bud rot, caused by *Phytophthora palmivora* Butler, was first reported on Grand Cayman Island in 1834 (6). It has since been found in almost all areas where coconuts are grown (1,6) and was confirmed in Florida in 1924 (7). Other palms susceptible to *Phytophthora* bud rot include the areca palm (*Areca cathecu*), palmyra palm (*Borassus flabellifer*), feather palm (*Howea forsteriana*), Kentia (*Howea*) *belmoreana*, Canary Island date palm (*Phoenix canariensis*), *Rhopalostylis baueri*, hat palm (*Sabal causiarum*), and the Washington palm (*Washingtonia filifera*) (2,3,6). *P. palmivora* has also been reported to infect the roots, leaves, stem, and fruits of many other hosts (3).



Fig. 1. Bud rot showing collapse of young fronds.



Fig. 2. Bud rot showing advanced stages of disease with loss of bud and collapse of old fronds.

SYMPTOMS. Early symptoms of infection are found on the young developing fronds. Brown sunken spots, yellowing with or without spotting, and/or withering of the fronds indicate infection by *P. palmivora* (1,7,8). The fronds turn a light greyish brown which becomes darker brown as they bend over and collapse at the base (1). Infection spreads inward to the soft tender bud tissue and outward to the base of the surrounding fronds which eventually turn yellow and fall to the ground (Fig. 1). Trees which are bearing may drop the young nuts but retain the older nuts until maturity (7).

The most obvious symptom of bud rot is the dying and subsequent loss of the bud in the late stages of the disease (Fig. 2). Also, a foul odor is usually associated with the decaying bud tissue (7).

Periods of high humidity favor disease development. Bud rot is most commonly found 1 to 2 months after periods of heavy rain (1). Infection occurs on trees 2 years old or older (7). The trees may die from 2 months to 2 years after infection (4), but natural recovery has been reported occasionally (1,6).

Spores of the fungus are disseminated by wind, wind-borne rain, and possibly by dipterous insects (1,7). Infected trees left standing may serve as a source of inoculum (7).

CONTROL. Removal and destruction of palms showing advanced symptoms of infection is the first step toward control. The fungicide Bordeaux mixture (5-5-50) plus a spreader-sticker has been reported to give control when applied to adjacent healthy palms or to palms showing early symptoms of the disease (7). In addition, removal of fronds showing early symptoms of infection is recommended (6).

Additional fungicides which have been suggested for control include captan (2 lb/100 gal), fixed copper (2-4 lb/100 gal), or fixed copper (1% lb/100 gal) plus maneb (1% lb/100 gal), with a spreader-sticker.

References

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